

Title:	VCA Recording				
Date:	11/3/2014	Version:	1.0.0	Pages	18
Product:	4 Series and 2 Series IP Cameras				
Action Required:	Information only				

OVERVIEW

HikVision **4 SERIES (DS-2CD4xxx)** cameras are called **SMART CAMERAS**. This is due to the built-in video analytics features, such as:

- Facial Detection (Please note: NOT Facial Recognition)
- People Counting
- Line Crossing
- Intrusion Detection

2 SERIES (DS-2CD2xxx Value Series) cameras also have video analytics capabilities with the latest firmware **v5.2.0** release. The value series cameras have only two (2) types of analytics:

- Line Crossing
- Intrusion Detection

The video analytics features are called **VCA** (Video Content Analytics).

So far the only NVRs that have the capability to record VCA events are:

- **DS-90xxHWI-ST** (960H Hybrid)
- **DS-90XXHFI-ST** (Real-Time Hybrid)
- **DS-96xxNI-ST** (NVR)
- **DS-7716NI-SP/16** (16 channel Plug-n-Play NVR)

The **VCA** events need to be configured from the camera's web interface directly. The NVRs do not have the capability to make **VCA** changes.

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CONFIGURING VCA RECORDING

To configure VCA recording:

1. Add the camera(s) to the NVR
2. Configure the VCA detection in the camera(s)
3. Configure VCA recording in the NVR

ADDING THE CAMERA(S) TO THE NVR:

Please refer to the NVR's user manual or quick start guide to add the camera(s).

CONFIGURING THE VCA DETECTION IN THE CAMERA(S)

VCA detection can be configured from the camera(s)'s web GUI only.

To configure the VCA detection, log in to the camera by typing the camera's IP address into a web browser (**Figure 1**).

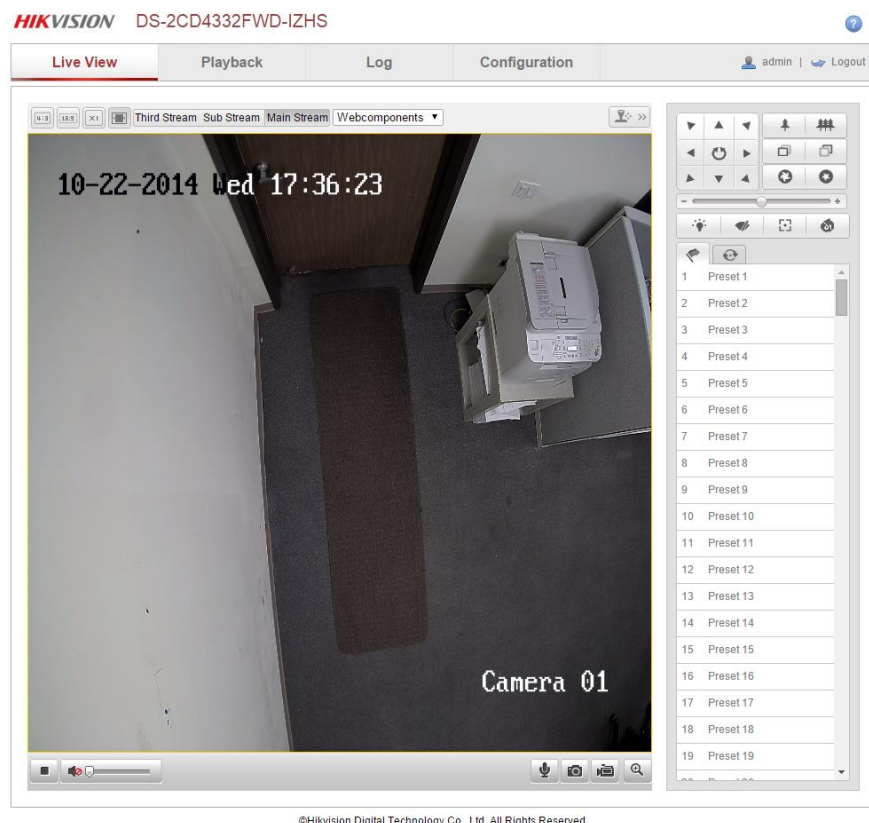


Figure 1

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Proceed to “CONFIGURATION”→”ADVANCED CONFIGURATION” (Figure 2).

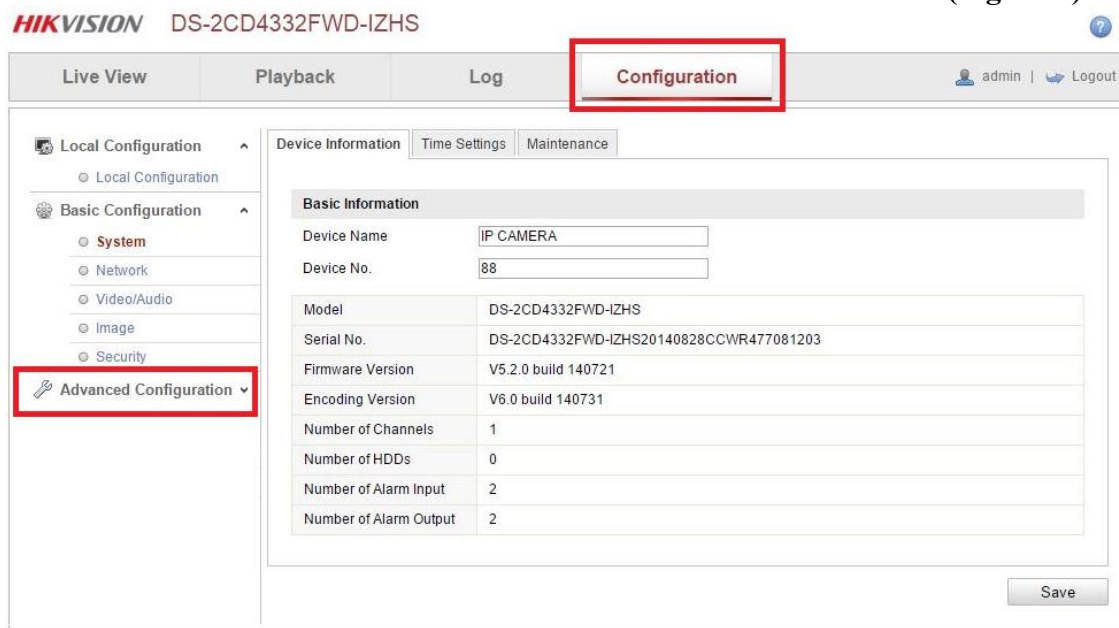


Figure 2

Go to “EVENTS” (Figure 3).

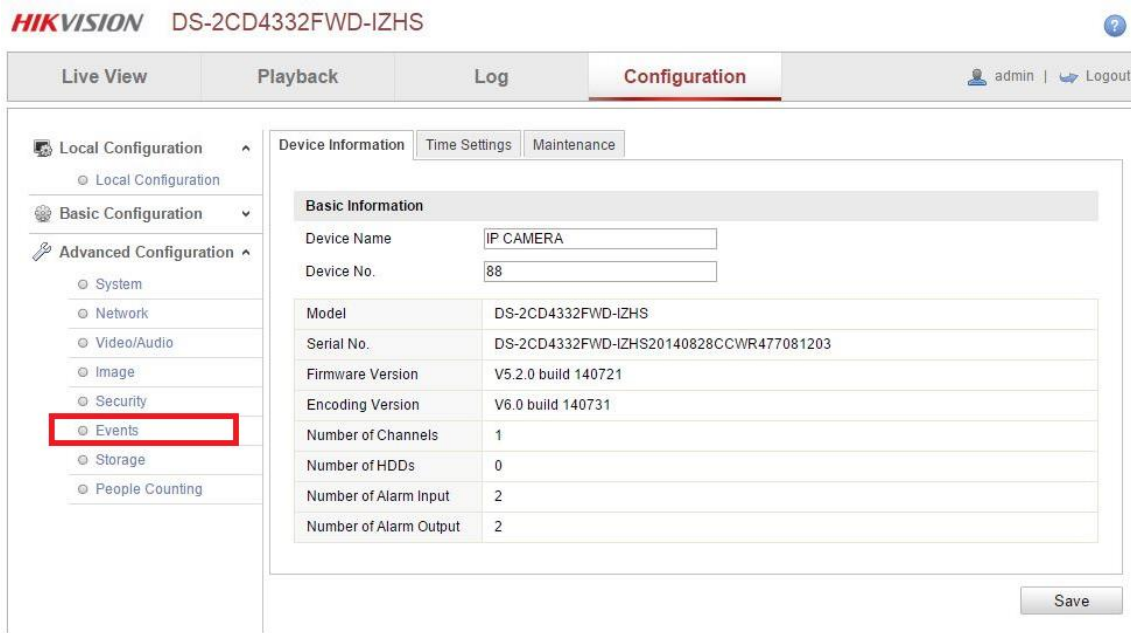


Figure 3

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Figure 3 shows the layout of the “EVENTS” menu.

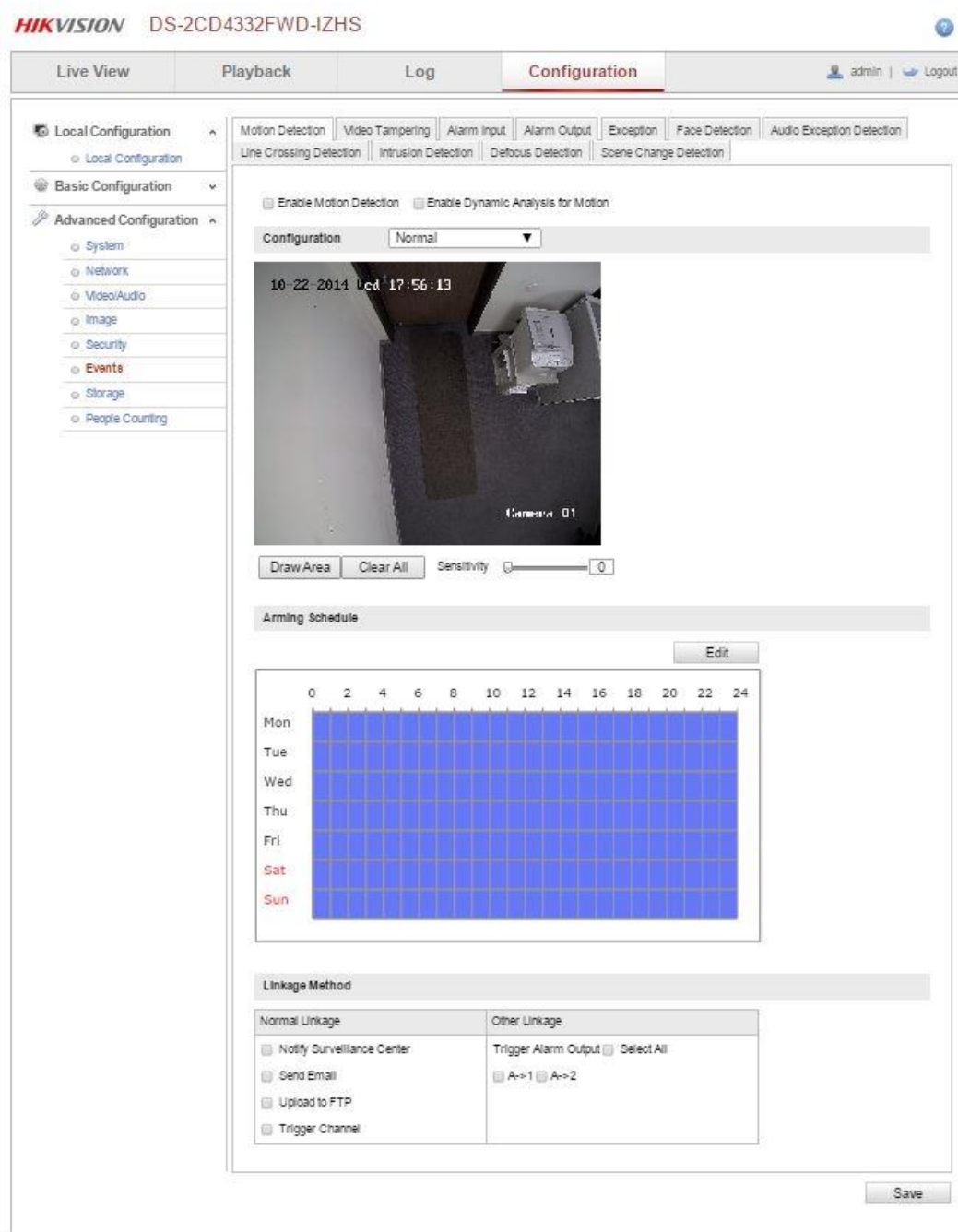


Figure 3

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1. Line Crossing Detection:

Line crossing detection is intended to filter unidirectional or bidirectional crossing of an imaginary line in order to narrow down search results (**Figure 4**).

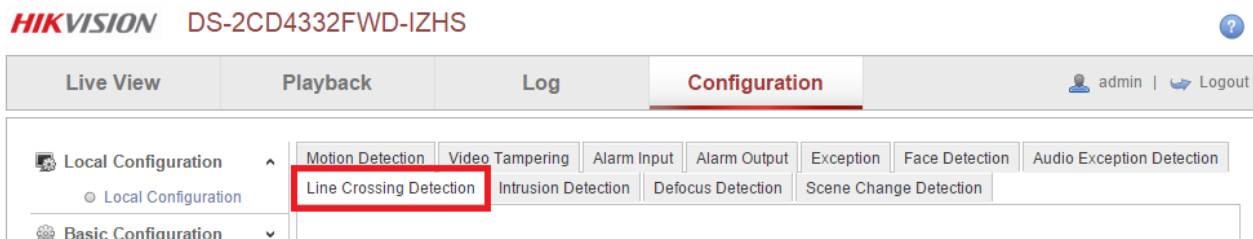


Figure 4

To set up “Line Crossing Detection” (**Figure 5**):

- Enable the **Line Crossing Detection** by checking the checkbox
- Click the “**DRAW AREA**” button to draw the line (to be crossed). Smart Series cameras can have up to 4 defined lines, the Value Series cameras- only 1 defined line.
- Set the direction of crossing. **A→B, B→A or A↔B**
- Set the sensitivity level (recommended 60-80).

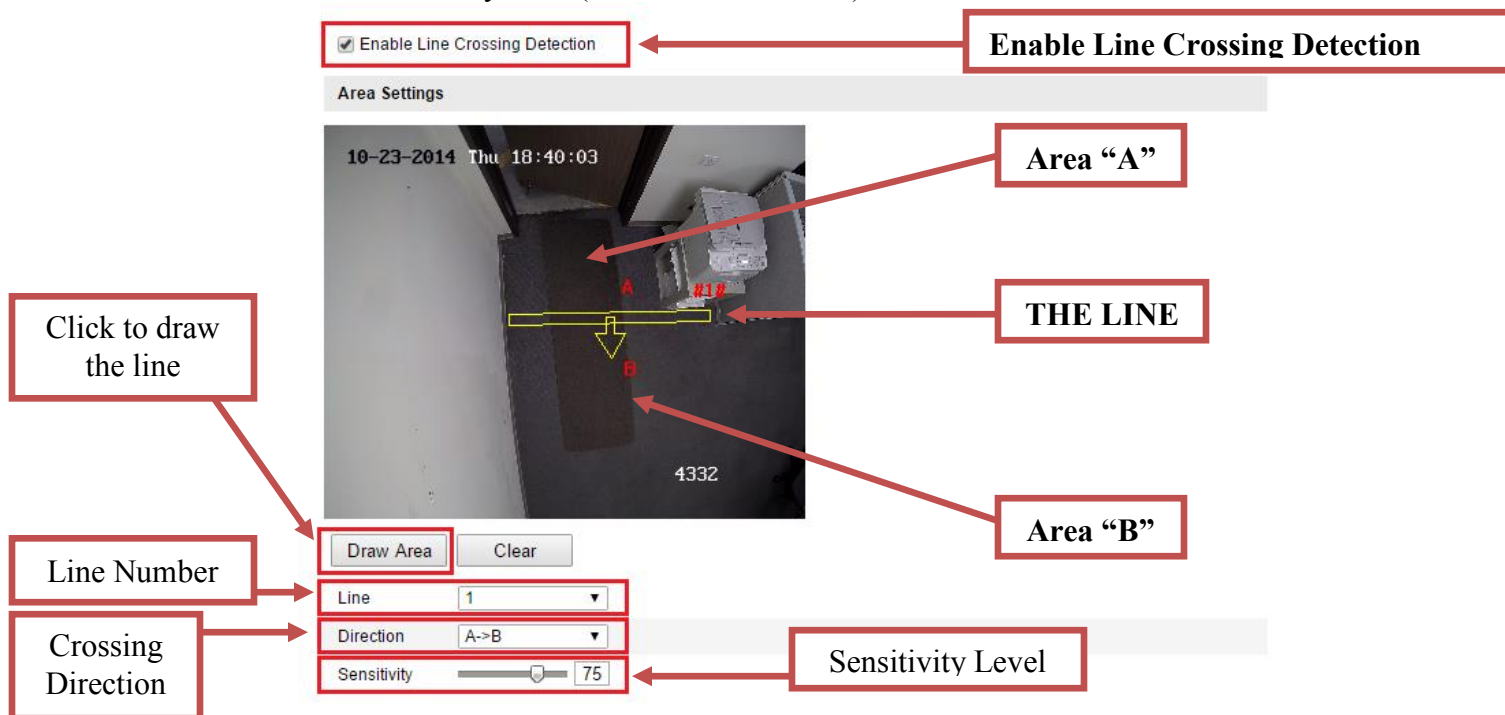


Figure 5 (Continues on the next page)

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- e. Set the Arming Schedule
- f. If needed, select “Notify Surveillance Center”/“Send E-Mail”/“Upload to FTP”/“Trigger Channel” or Trigger an alarm output

The screenshot shows the 'Arming Schedule' and 'Linkage Method' configuration screens. The 'Arming Schedule' screen features a 7x24 grid for setting detection times. The 'Linkage Method' screen has two sections: 'Normal Linkage' and 'Other Linkage'. Annotations with red boxes and arrows point to specific UI elements:

- Arming Schedule:**
 - An **Edit** button is highlighted with a red box and an arrow pointing to it with the text: "Click to edit the detection schedule".
 - The entire grid is enclosed in a red box with an arrow pointing to it from the text: "Detection Schedule".
- Linkage Method:**
 - The **Normal Linkage** section contains four checkboxes: "Notify Surveillance Center", "Send Email", "Upload to FTP", and "Trigger Channel". Each checkbox is highlighted with a red box. Arrows from these boxes point to a large red box containing the following text:
 - Check to record onto the Micro SD card
 - *Not all models have a Micro SD slot
 - *Micro SD card is not included
 - Check to upload still images to an FTP
 - Check to send E-Mail notifications
 - Check to upload still images to an FTP
 - The **Other Linkage** section contains a checkbox for "Trigger Alarm Output" and two radio buttons for "A->1" and "A->2". The "Trigger Alarm Output" checkbox is highlighted with a red box and an arrow pointing to it from the text: "Check to enable alarm output".
 - A **Save** button is highlighted with a red box at the bottom right.

Figure 5

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Figure 6

Before
crossing the
line.

The line is
BLUE

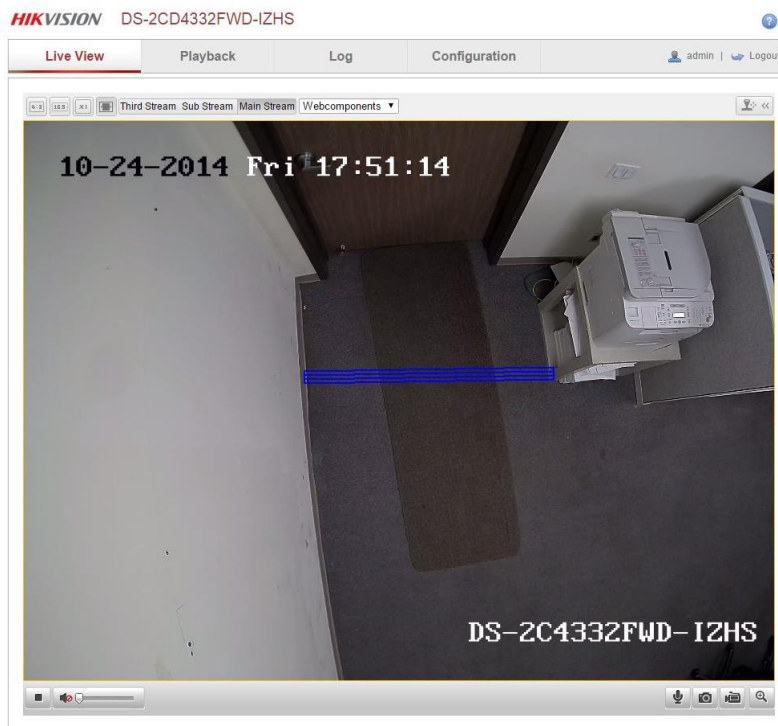


Figure 7

After crossing
the line.

The line is
RED



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2. Intrusion Detection:

Intrusion detection is intended to filter object entry into an imaginary area and staying there for a predetermined period of time in order to narrow down search results (**Figure 6**).

HIKVISION DS-2CD4332FWD-IZHS



To set up “**Intrusion Detection**” (**Figure 8**):

- Enable the **Intrusion Detection** by checking the checkbox
- Click the “**DRAW AREA**” button to draw the area (to be intruded). Smart Series cameras can have up to 4 defined areas, the Value Series cameras- only 1 defined area.
- Draw the area by defining the vertices of a tetragon (square/rectangle....). After defining the 4th vertex- right-click to finalize the definition.
- Set the threshold (0-10 seconds). The threshold defines the amount of time required to distinguish intrusion from crossing
- Set the sensitivity level.
- Set the percentage (0-100%). Percentage defines the size of the object in comparison with the selected intrusion area.

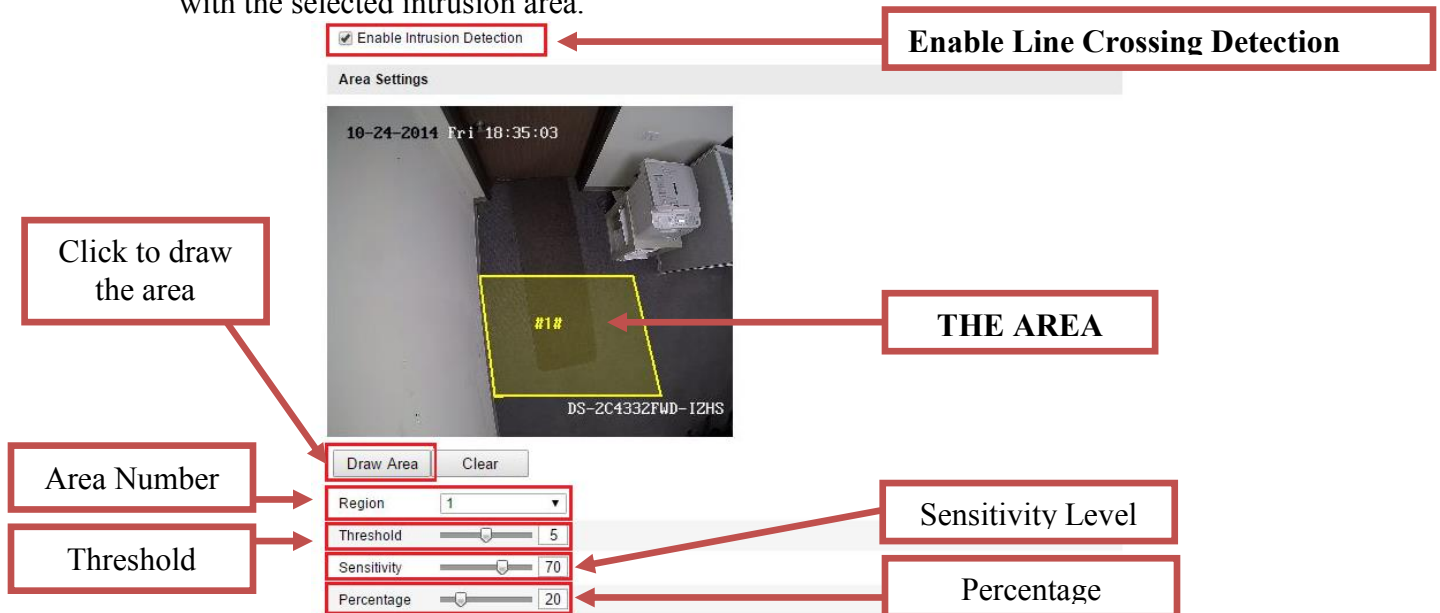


Figure 8 (Continues on the next page)

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- g. Set the Arming Schedule
- h. If needed, select “Notify Surveillance Center”/“Send E-Mail”/“Upload to FTP”/“Trigger Channel” or Trigger an alarm output

The screenshot shows the 'Arming Schedule' and 'Linkage Method' configuration screens. The 'Arming Schedule' screen features a 7-day grid (Mon-Sun) with a time axis from 0 to 24 hours. An 'Edit' button is located in the top right corner. The 'Linkage Method' screen is divided into 'Normal Linkage' and 'Other Linkage' sections. The 'Normal Linkage' section includes checkboxes for 'Notify Surveillance Center', 'Send Email', 'Upload to FTP', and 'Trigger Channel'. The 'Other Linkage' section includes a 'Trigger Alarm Output' checkbox and a 'Select All' checkbox. A 'Save' button is located at the bottom right. Red boxes and arrows highlight specific elements: the 'Edit' button, the 'Arming Schedule' grid, the 'Notify Surveillance Center' checkbox, the 'Send Email' checkbox, the 'Upload to FTP' checkbox, the 'Trigger Channel' checkbox, the 'Trigger Alarm Output' checkbox, and the 'Save' button. Text boxes provide instructions for each highlighted element.

Arming Schedule

Click to edit the detection schedule

Detection Schedule

Linkage Method

Check to enable alarm output

Check to record onto the Micro SD card
*Not all models have a Micro SD slot
*Micro SD card is not included

Check to upload still images to an FTP

Check to send E-Mail notifications

Check to upload still images to an FTP

Save

Figure 8

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Figure 9

Before
intruding the
area

The area is
BLUE

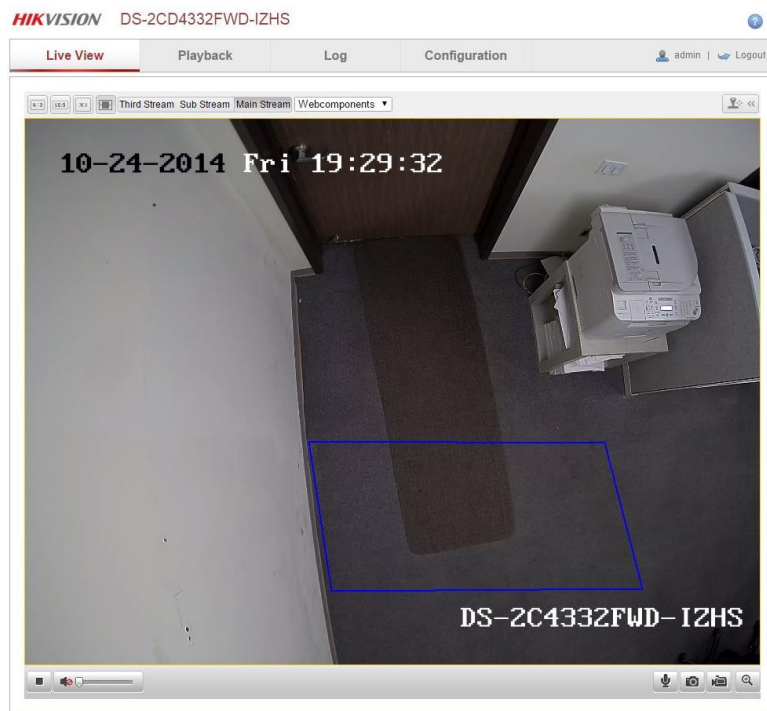
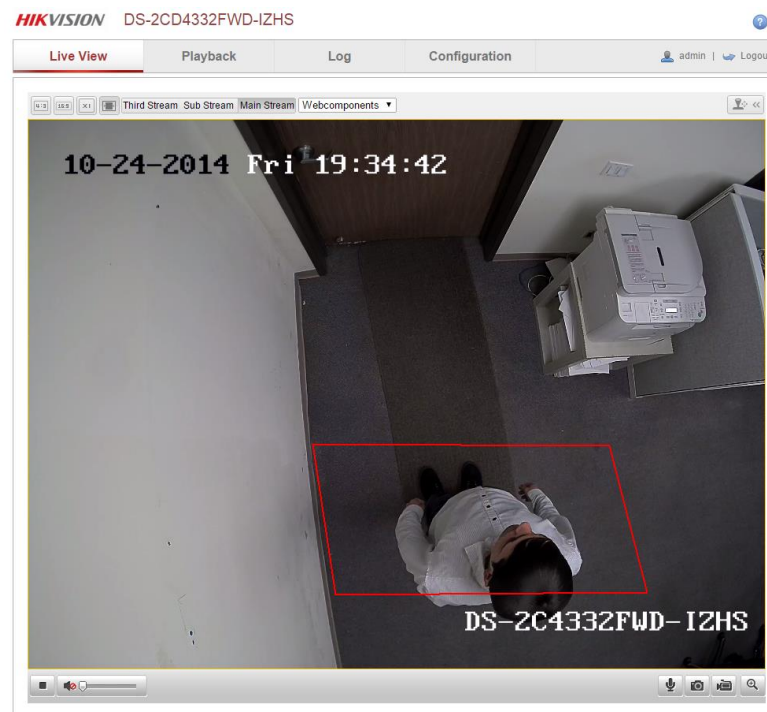


Figure 10

After intruding
the area

The area is
RED



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CONFIGURING DUAL VCA:

All the configurations mentioned above will be accessible directly from the camera(s) (if the camera(s) have a Micro SD slot and a Micro SD card has been installed. Micro SD cards are not included with cameras).

For the NVR to recognize these types of events, a feature called **DUAL VCA** has to be enabled in the camera(s).

To enable **DUAL VCA**:

- Go to Configuration.
- Go to **Advanced Configuration**→**Video/Audio**
- Go to the **Display Info. On Stream** tab
- Enable **DUAL VCA** (Figure)

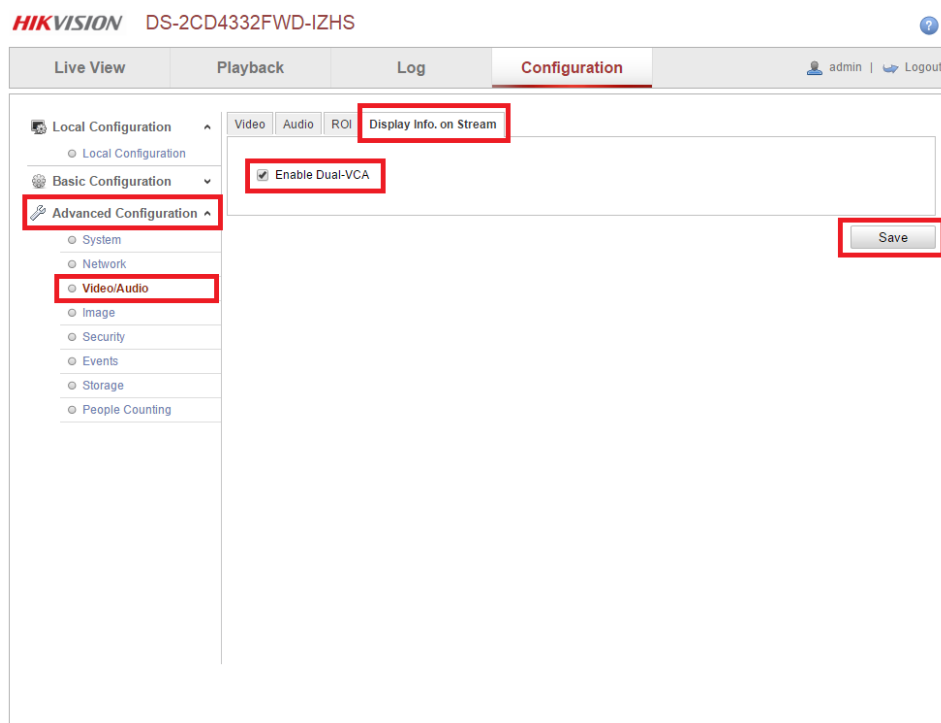


Figure 11

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CONFIGURING VCA RECORDING IN THE NVR:

After setting up the VCA detection in the camera(s), it is time to set up the recording. Go to **MENU→RECORDING CONFIGURATION (Figure 15).**

Click on **VCA (pink)** and change the recording schedule to **VCA (Figure 16).**



Figure 12



Figure 13

Please note, that if the recording schedule will be set to VCA, the NVR will only record VCA events and will ignore ordinary motion and alarm triggers. But because VCA is a type of an event and the recording schedule is set to **EVENT**, then the NVR will record ordinary events (motion and alarm) as well as VCA events.

After the Recording schedule is set, the VCA detection of the camera has to be enabled (just like motion detection). Go to **MENU→CAMERAS SETUP** then go to **VCA (Figure 17).**

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Select the camera from the drop-down menu

Enable
VCA Alarm

Set up
E-Mail linkage,
Schedule, PTZ
linkage...

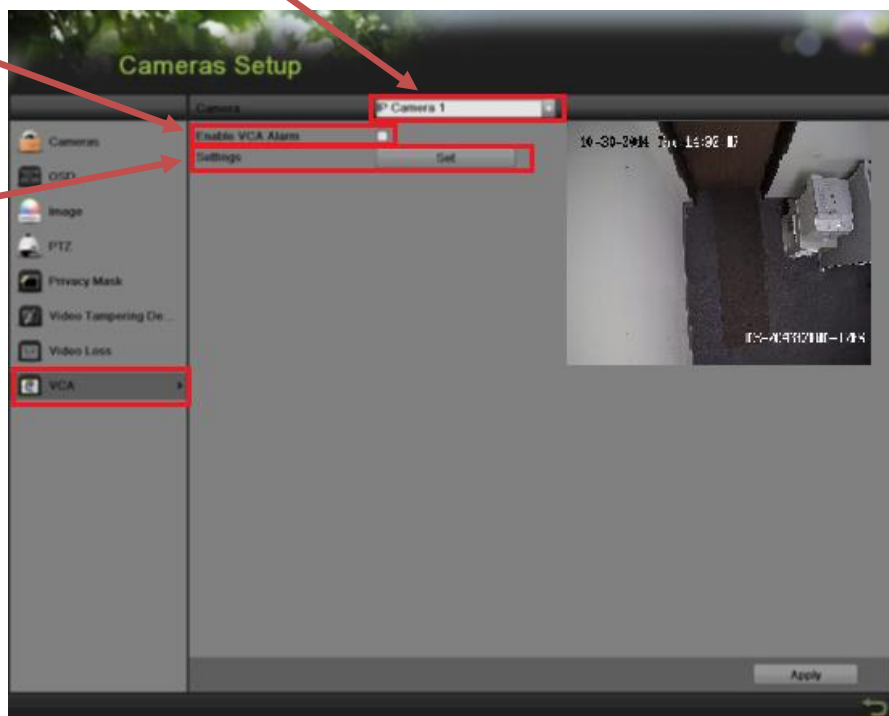


Figure 14

After the VCA has been enabled in the camera, the NVR will record upon VCA events.

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USING SMART PLAYBACK FEATURE

If the camera(s) with VCA features have been recording continuously or on an event schedule, the NVR provides a **SMART SEARCH** feature to locate the VCA events within the recording.

Go to **MENU→PLAYBACK (Figure 18)**.

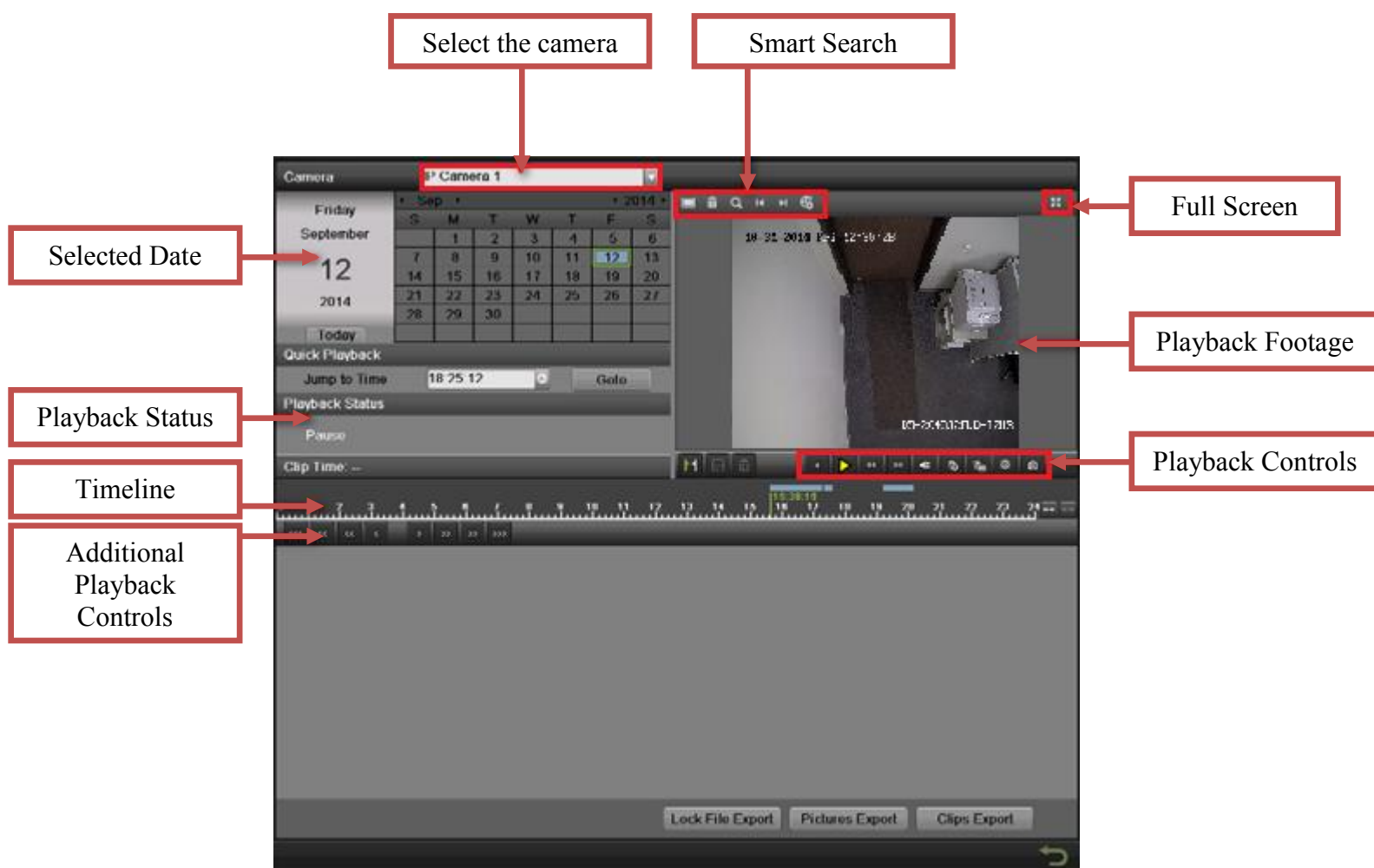


Figure 15

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To find VCA recording in playback:

- Click on the **FULL SCREEN** icon.
- Click on **SMART SEARCH (Figure 19)**.

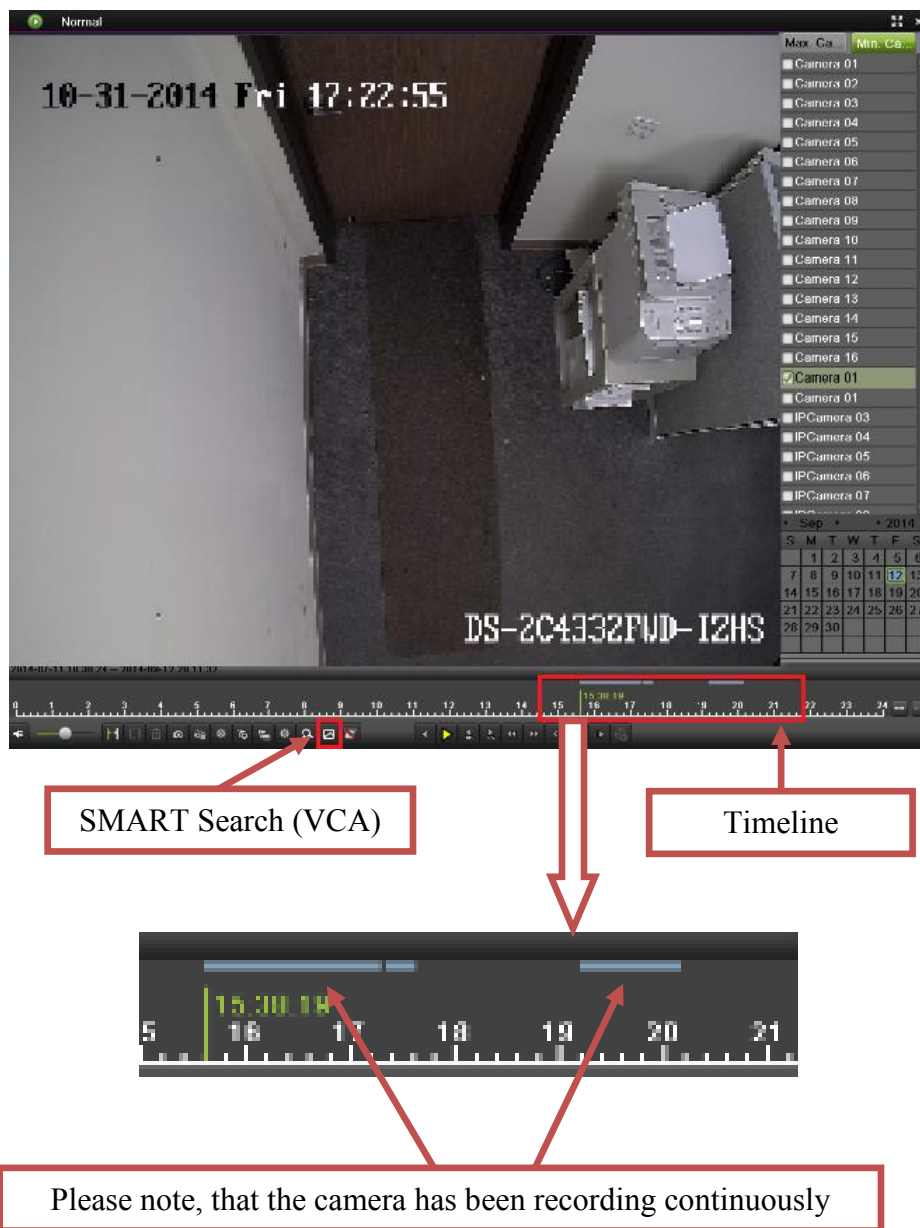


Figure 16

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After pressing the **SMART SEARCH** button, the **SMART SEARCH OPTIONS** toolbar will appear (**Figure 19**).



Figure 19

SMART Search Options

Figure 20 explains the icons in the Smart Search Options.

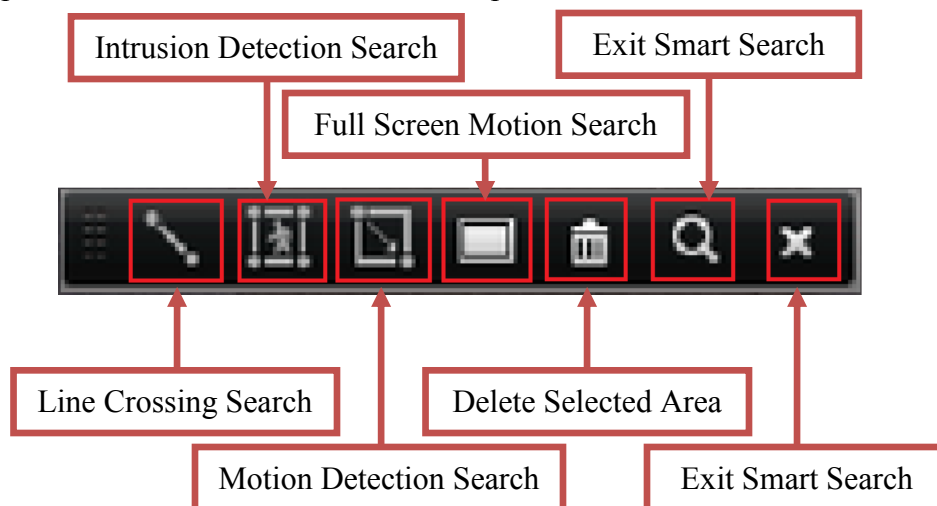


Figure 17

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To initiate a Line Crossing search:

- Click the line crossing search button
- Draw a line anywhere on the screen (please note that the line will look like a thin rectangle)
- Press Search

Please see **Figure 18**.

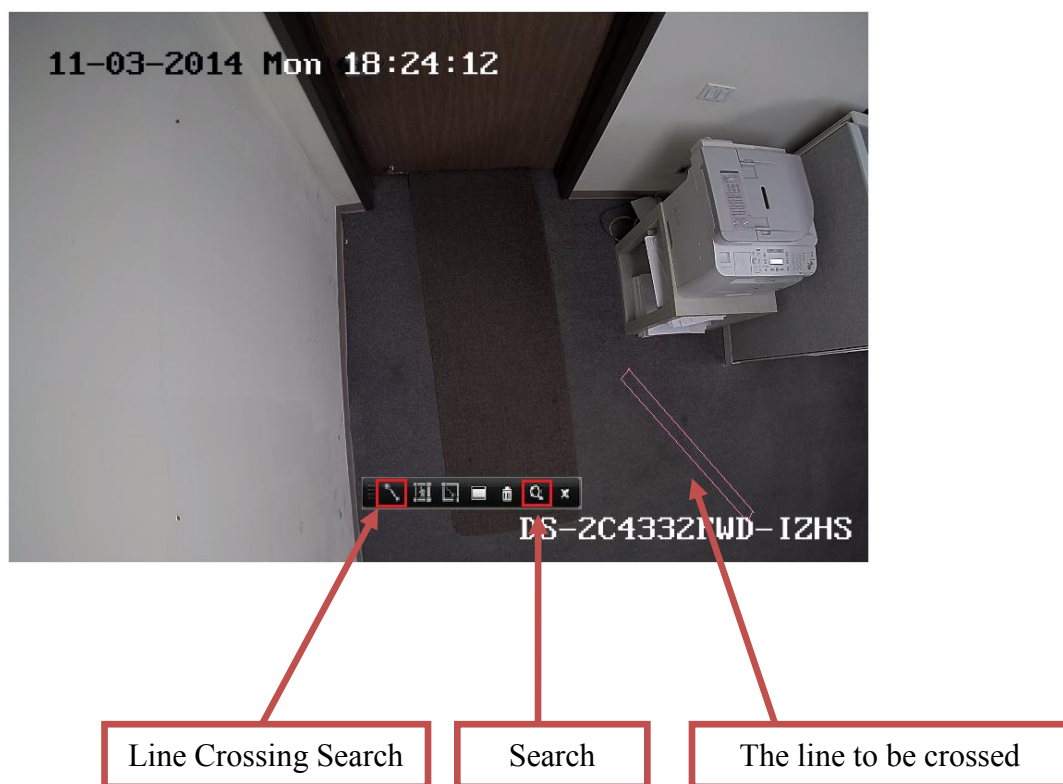


Figure 18

After searching, the timeline will look like the example in **Figure 19**.

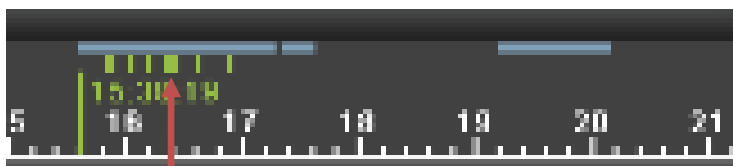


Figure 19

The choppy green lines indicate when line crossing has occurred

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To initiate a Line Crossing search:

- Click the line crossing search button
- Draw a line anywhere on the screen (please note that the line will look like a thin rectangle)

Please see **Figure 18**.

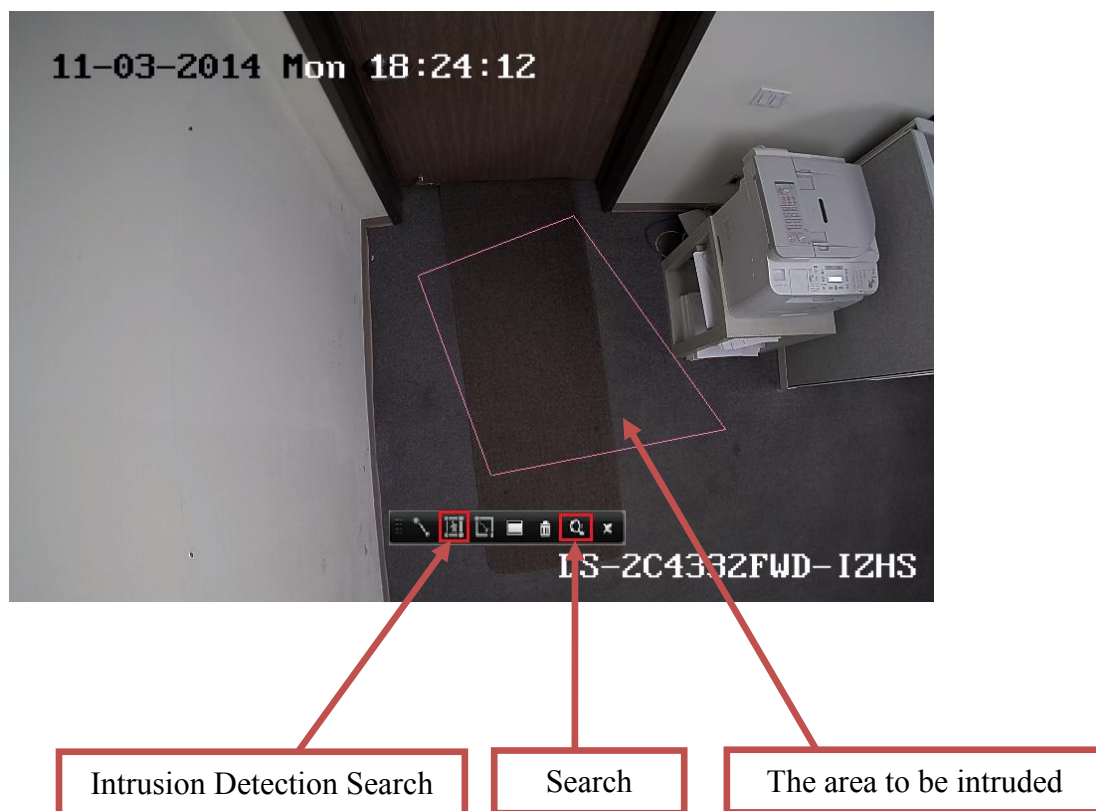


Figure 20

After searching, the timeline will look like the example in **Figure 21**

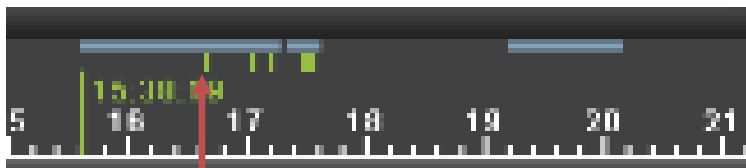


Figure 21

The choppy green lines indicate when intrusion has occurred